

REMARKS

Reconsideration and allowance of the present patent application based on the foregoing amendments and following remarks are respectfully requested. Since this Amendment is being presented together with a Request for Continued Examination, entry of this Amendment is respectfully requested.

By this Amendment, claims 1 and 18 are amended and claims 27 and 28 are newly added. Support for the amendments to claims 1 and 18 and new claims 27 and 28 may be found, for example, in the embodiments shown from page 28, line 20 to page 29, line 4 of the specification. No new matter is added. After entry of this Amendment, claims 1, 2, 6, 7, 11 and 14-28 will remain pending in the patent application.

In the Office Action, claims 1 and 18 were objected to. In response, claim 1 is amended in the manner suggested by the Examiner. With respect to the rejection of claim 18, the Examiner indicated that the periods “.” after the recitations “recording layer” and “crystalline alloy” should be removed. Applicants respectfully note that the Amendment filed on March 14, 2005 does not contain such a punctuation after these two recitations, but merely a comma “,”. Accordingly, reconsideration and withdrawal of the objection to the claims are respectfully requested.

Claims 1, 2, 6, 7, 14-21 and 23-26 were rejected under 35 U.S.C. §103(a) based on Honda *et al.* (U.S. Pat. No. 5,851,643) (hereinafter “Honda”) in view of Hikosaka *et al.* (U.S. Pat. No. 5,792,564) (hereinafter “Hikosaka”). The rejection is respectfully traversed.

Claim 1 recites a perpendicular magnetic recording medium comprising, *inter alia*, a first perpendicular magnetic recording layer formed on the nonmagnetic substrate at room temperature, wherein the first perpendicular magnetic recording layer has an easy axis of magnetization in a vertical direction, and containing cobalt, oxygen, and at least one of platinum and chromium; and a second perpendicular magnetic recording layer formed on the first perpendicular magnetic recording layer, wherein the second perpendicular magnetic recording layer has an easy axis of magnetization in the vertical direction, and mainly contains a crystalline alloy, and the crystalline alloy contains cobalt, chromium, platinum, and at least one rare earth element selected from the group consisting of yttrium, lanthanum, cerium, praseodymium, neodymium, samarium, europium, gadolinium, terbium, dysprosium, holmium, thulium, ytterbium, and lutetium.

As conceded by the Examiner, Honda fails to disclose the claimed alloys for the first and second vertical magnetic layers. The Examiner then relies on Hikosaka as allegedly

teaching the deficiencies of Honda and contends that it would have been obvious to combine these references. Applicants respectfully disagree and submit that, *per* MPEP 2145, it is improper to combine references that teach away from their combination. In the present case, Applicants respectfully submit that Honda clearly teaches away from Hikosaka.

Honda discloses that an object of the invention is to provide a magnetic recording media exhibiting low read-back noise. (*See* col. 2, lines 3-28, col. 3, lines 31-51 and col. 4, lines 35-45). On the other hand, Hikosaka discloses a longitudinal recording medium and a magnetic recording apparatus comprising a substrate and a single longitudinal magnetization film. (*See* FIGS. 1-4 and their corresponding descriptions). However, Honda teaches that “as clearly shown in FIG. 6, multi-layer media 26 formed by stacking two types of magnetic film via a non-magnetic intermediate layer, exhibits decreased read-back noise 30 for any non-magnetic intermediate layer thickness compared to a single-layer magnetic film formed only from one type of magnetic film.” (*See* col. 18, lines 27-32). Accordingly, by virtue of specifically teaching that a single longitudinal magnetization film provides poor results in terms of read-back noise, Honda teaches away from a recording medium as disclosed by Hikosaka. Therefore, it is respectfully submitted that one of ordinary skill in the art would not be motivated to combine the teachings of these references. For at least this reason, Applicants respectfully submit that the Office Action has failed to establish a *prima facie* case of obviousness.

Furthermore, Applicants respectfully submit that Honda by itself fails to disclose, teach or suggest a perpendicular magnetic medium as recited in claim 1. For example, Honda fails to disclose, teach or suggest a first perpendicular magnetic recording layer formed on the nonmagnetic substrate at room temperature. Honda merely discloses a magnetic recording media having a non-magnetic substrate and a magnetic film including at least two magnetic layers separated by a non-magnetic layer. Honda discloses that the stacked material is formed by placing the substrate under vacuum and by heating the substrate to a temperature of about 200°C. (*See* col. 17, lines 25-30). Honda discloses that an under layer is then formed and that, under the same vacuum, a first magnetic layer is deposited. (*See* col. 17, lines 36-37). Subsequently to the deposition of the first layer, the non-magnetic layer and the second magnetic layer are created. (*See* col. 17, lines 37-52). However, Applicants respectfully submit that Honda is completely silent about, and provides no motivation to create, a first perpendicular magnetic recording layer formed on the nonmagnetic substrate at room temperature.

Claims 6-7 and 14-17 are patentable over Honda, Hikosaka and any combination thereof at least by virtue of their dependency from claim 1 and for the additional features recited therein.

Claim 18 is patentable over Honda, Hikosaka and any combination thereof for at least similar reasons as provided above in connection with claim 1 and for the additional features recited therein. Namely, claim 18 is patentable over Honda, Hikosaka and any combination thereof at least because a magnetic recording/reproduction apparatus comprising, *inter alia*, a perpendicular magnetic recording medium that includes a first perpendicular magnetic recording layer formed on the nonmagnetic substrate at room temperature, having an easy axis of magnetization in a vertical direction, and containing cobalt, oxygen, and at least one of platinum and chromium; and a second perpendicular magnetic recording layer formed on the first perpendicular magnetic recording layer, having an easy axis of magnetization in the vertical direction, and mainly containing a crystalline alloy, and the crystalline alloy contains cobalt, chromium, platinum, and at least one rare earth element selected from the group consisting of yttrium, lanthanum, cerium, praseodymium, neodymium, samarium, europium, gadolinium, terbium, dysprosium, holmium, thulium, ytterbium, and lutetium.

As mentioned previously, Applicants respectfully submit that there is no motivation or suggestion to combine these references at least because Honda teaches away from Hikosaka. Therefore, claim 18 cannot be rendered obvious in view of the suggested combination.

Claims 23-26 are patentable over Honda, Hikosaka and any combination thereof at least by virtue of their dependency from claim 18 and for the additional features recited therein.

Accordingly, reconsideration and withdrawal of the rejection of claims 1, 2, 6, 7, 14-21 and 23-26 under 35 U.S.C. §103(a) based on Honda in view of Hikosaka are respectfully requested.

Claims 11 and 22 were rejected under 35 U.S.C. §103(a) based on Honda in view of Hikosaka and Nippon Digital (JP 02-103715 A). The rejection is respectfully traversed.

Claim 11 depends from claim 1 and is patentable over Honda, Hikosaka and any combination thereof for at least similar reasons as provided above in claim 1, and for the additional features recited therein. As mentioned previously, Applicants respectfully submit that there is no motivation or suggestion to combine the cited references.

Furthermore, Applicants respectfully submit that Honda teaches away from Nippon Digital. Nippon Digital merely discloses a vertical magnetic recording medium including a

single magnetization layer. As mentioned previously, Honda teaches away from such a structure. Therefore, it is respectfully submitted that one skilled in the art would not be motivated to combine the teachings of these references. For at least this reason, Applicants respectfully submit that the Office Action has failed to establish a *prima facie* case of obviousness.

Likewise, claim 22 depends from claim 18 and is patentable over Honda, Hikosaka, Nippon Digital and any combination thereof for at least similar reasons as provided above in claim 18, and for the additional feature(s) recited therein. As mentioned previously, Applicants respectfully submit that there is no motivation or suggestion to combine the cited references.

Accordingly, reconsideration and withdrawal of the rejection of claims 11 and 22 under 35 U.S.C. §103(a) based on Honda in view of Hikosaka and Nippon Digital are respectfully requested.

Claims 1, 2, 6-7, 11 and 14-26 were rejected under 35 U.S.C. §103(a) based on Honda in view of Sakawaki *et al.* (U.S. Pub. No. 2003/0082407), and claims 1, 2, 6-7, 11 and 14-26 were rejected under 35 U.S.C. §103(a) based on Honda in view of Sakawaki (JP 2003-67910 A), which is the Japanese corresponding application of U.S. Pub. No. 2003/0082407. (collectively referred to as “Sakawaki” hereinafter for the purpose of addressing these rejections). These rejections are respectfully traversed.

As conceded by the Examiner, Honda fails to disclose, teach or suggest an alloy made of a Cobalt oxide magnetic layer, as recited in claim 1. However, and as mentioned previously, Applicants respectfully submit that there are additional features in claim 1 that are absent in Honda. For example, Honda fails to disclose, teach or suggest a first perpendicular magnetic recording layer formed on the nonmagnetic substrate at room temperature. Honda merely discloses that the first recording layer is formed after heating the substrate to a temperature of about 200°C. (*See* col. 17, lines 25-30).

Sakawaki fails to remedy the deficiencies of Honda. Sakawaki merely discloses a magnetic recording medium having a non-magnetic substrate, an orientation-regulating layer for regulating the crystal orientation of a layer provided thereon, a perpendicular magnetic layer and a protective layer. (*See* paragraph [0065]). However, Applicants respectfully submit that Sakawaki does not disclose, teach or suggest a first perpendicular magnetic recording layer formed on the nonmagnetic substrate at room temperature. Therefore, any reasonable combination of Honda and Sakawaki cannot result, in any way, in the invention of claim 1.

Claims 2, 6-7, 11 and 14-17 are patentable over Honda, Sakawaki and any combination thereof at least by virtue of their dependency from claim 11 and for the additional feature(s) recited therein.

Claim 18 is patentable over Honda, Sakawaki and any combination thereof for at least similar reasons as provided above in claim 1 and for the additional feature(s) recited therein. Namely, claim 18 is patentable over Honda, Sakawaki and any combination thereof at least because this claim recites a magnetic recording/reproduction apparatus comprising, *inter alia*, a perpendicular magnetic recording medium that includes a first perpendicular magnetic recording layer formed on the nonmagnetic substrate at room temperature. As mentioned previously, neither Honda nor Sakawaki teaches or suggests these features. Therefore, any reasonable combination of Honda and Sakawaki cannot result, in any way, in the invention of claim 18.

Claims 19-26 are patentable over Honda, Sakawaki and any combination thereof at least by virtue of their dependency from claim 18 and for the additional feature(s) recited therein.

Accordingly, reconsideration and withdrawal of the rejections of claims 1, 2, 6-7, 11 and 14-26 under 35 U.S.C. §103(a) based on Honda in view of Sakawaki (U.S. Pub. No. 2003/0082407) and claims 1, 2, 6-7, 11 and 14-26 under 35 U.S.C. §103(a) based on Honda in view of Sakawaki (JP 2003-67910 A) are respectfully requested.

Claims 27 and 28 are newly added and define additional subject matter that is novel and non-obvious over the art of record. Claims 27 and 28 are patentable over the art of record at least by virtue of their dependency from claims 1 and 18, respectively, and for the additional feature(s) recited therein. Specifically, Applicants respectfully submit that the art of record does not disclose, teach or suggest a second perpendicular magnetic recording layer formed at room temperature. It is respectfully submitted that claims 27 and 28 are in condition for allowance.

The rejections having been addressed, Applicants request issuance of a notice of allowance indicating the allowability of all pending claims. If anything further is necessary to place the application in condition for allowance, Applicants request that the Examiner contact Applicants' undersigned representative at the telephone number listed below.

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Respectfully submitted,

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